

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-12 (Cancelled)

13. (New) A bipolar semiconductor device including:
a substrate in which a surface having a specified off-angle from a (000-1) carbon surface of a crystal of a first-conductive-type silicon carbide semiconductor whose base material is silicon carbide, which is a compound of carbon and silicon, is formed; and
at least one drift layer which is formed on a crystal growth surface of the substrate at a specified formation rate with a first- or second-conductive-type silicon carbide semiconductor, where the surface of the substrate having the specified off-angle is taken as the crystal growth surface of the substrate.

14. (New) The bipolar semiconductor device as claimed in claim 13, further including
at least one layer of a first- or second-conductive-type silicon carbide semiconductor formed on the drift layer.

15. (New) The bipolar semiconductor device as claimed in claim 13, wherein
the substrate serves as a cathode and
the bipolar semiconductor device further includes a semiconductor layer which is formed on the drift layer and which is of a second-conductive-type silicon carbide to serve as an anode.

16. (New) A bipolar semiconductor device including:
- a substrate which is to serve as a collector and in which a surface having a specified off-angle from a (000-1) carbon surface of a crystal of a first-conductive-type silicon carbide semiconductor whose base material is silicon carbide, which is a compound of carbon and silicon, is formed;
- a drift layer which is formed on a crystal growth surface of the substrate at a specified film growth rate by epitaxial growth of a first-conductive-type silicon carbide, where the surface of the substrate having the specified off-angle is taken as the crystal growth surface of the substrate;
- a second-conductive-type base layer formed on the drift layer; and
- a first-conductive-type emitter layer formed on part of the base layer.

17. (New) A bipolar semiconductor device including:
- a substrate which is to serve as a collector and in which a surface having a specified off-angle from a (000-1) carbon surface of a crystal of a first-conductive-type silicon carbide semiconductor whose base material is silicon carbide, which is a compound of carbon and silicon, is formed;
- a drift layer which is formed on a crystal growth surface of the substrate at a specified film growth rate by epitaxial growth of a silicon carbide, where the surface of the substrate having the specified off-angle is taken as the crystal growth surface of the substrate;
- a first-conductive-type grown layer formed on the drift layer;
- a second-conductive-type emitter layer formed on the first-conductive-type grown

layer;

a contact region formed by ion implantation into the first-conductive-type grown layer via a through hole formed in the second-conductive-type emitter layer; and

a gate electrode formed via an insulating film on the first-conductive-type grown layer and the second-conductive-type emitter layer.

18. (New) The bipolar semiconductor device as claimed in claim 13, wherein the off-angle is within a range of 2 to 10 degrees.

19. (New) The bipolar semiconductor device as claimed in claim 14, wherein the film that is to serve as a drift layer and that is formed by epitaxial growth of silicon carbide is formed at a film growth rate having a film-thickness increasing rate per hour h of $10 \mu\text{m}/\text{h}$ or more.

20. (New) The bipolar semiconductor device as claimed in claim 13, further including a buffer layer formed between the substrate and the drift layer.

21. (New) A manufacturing method for a bipolar semiconductor device comprising the steps of:

forming a substrate by cutting a crystal of a first-conductive-type silicon carbide semiconductor whose base material is silicon carbide, which is a compound of carbon and silicon, by a surface having a specified angle with respect to a (000-1) carbon surface of the crystal;

forming a drift layer on a crystal growth surface of the substrate at a specified film growth rate by epitaxial growth of a first-conductive-type silicon carbide, where the surface of the substrate having the specified angle is taken as the crystal growth surface; and

forming at least one layer of a first- or second-conductive-type silicon carbide semiconductor on the drift layer.

22. (New) The bipolar semiconductor device manufacturing method as claimed in claim 21 wherein

the specified angle is within a range of 2 to 10 degrees.

23. (New) The bipolar semiconductor device manufacturing method as claimed in claim 21, wherein

a film-thickness increasing rate per hour h in the step of forming the drift layer is 10 $\mu\text{m}/\text{h}$ or more.

24. (New) The bipolar semiconductor device manufacturing method as claimed in claim 21, further comprising a step of:

forming a buffer layer between the substrate and the drift layer.